

What is claimed is:

1. A method of regenerating an ion exchange resin, comprising the steps of:

packing a used ion exchange resin in a  
5 regeneration tower; and  
repeating at least twice a step comprising passing  
an aqueous solution of regenerant through the  
regeneration tower downward from a top part of the  
regeneration tower and thereafter passing ultra-pure  
10 water through the regeneration tower upward from a  
bottom of the regeneration tower.

2. The method as claimed in claim 1, wherein the  
aqueous solution of regenerant is passed downward at a  
space velocity of 1 to 5  $\text{hr}^{-1}$  while the ultra-pure  
15 water is passed upward at a space velocity of 10 to 30  
 $\text{hr}^{-1}$ .

3. The method as claimed in claim 1, wherein, in  
the regeneration tower, parts brought into contact with  
the ion exchange resin, the regenerant and the ultra-  
20 pure water are composed of a fluororesin, a vinyl  
chloride resin or a polyolefin resin.

4. The method as claimed in claim 2, wherein, in  
the regeneration tower, parts brought into contact with  
25 the ion exchange resin, the regenerant and the ultra-

pure water are composed of a fluoro-resin, a vinyl chloride resin or a polyolefin resin.